

## 12 WHY PRIVATE ENTERPRISE? Towards a Dynamic Analysis of Economic Institutions and Policies

by Pavel Pelikan

### 1. The problem

The lack of consensus about the conduct of economic policy can often be traced to basic disagreements about the merits of private enterprise (capitalism), in comparison with various forms of socialism and government control. In part, the disagreements are due to differences in values about social ends, on which economic analysis has little to say. But in part they are due to differences of opinion about how efficient private enterprise is. While some see in private enterprise the pillar of productive efficiency, on which government intervention has little to improve, others claim that a properly designed system of government control or socialist planning could achieve superior results, through better coordination of production tasks. In principle, such differences of opinion could be reduced by analytical arguments, whose great merit would be to help society reach consensus on at least some policy issues.

For the search of such arguments two questions are central: Does private enterprise have some specific virtues, inimitable by socialism and government control, which endow it with superior production performance? If so, how should economic policy be conducted, in order to take full advantage of such virtues, rather than spoiling them?

Obviously, no definite answers to these questions can be found in such a short essay as the present one. All that I wish to do here is to indicate what I believe is a promising way to search for such answers. I shall first explain why existing theories are of little help in this search. I shall then outline an alternative research program, arguing that the key is in two closely related problems: *economic self-organization* and *allocation of tacit knowledge*. Finally, I shall indicate how these problems can be approached by analysis, and what knowledge relevant to this search such analysis can yield.

### 2. The Inconclusiveness of Conventional Theories

Since already Adam Smith was interested in the merits of private enterprise, it may appear surprising that modern economic theories have so little to say

about them. As Solow 1980 notes in his presidential address to the American Economic Association, even highly respected members of the profession can strongly disagree about what these merits are and whether private enterprise has any merits at all. Nelson 1981 shows in a systematic way that, contrary to what many economists seem to believe, existing theories provide no substantial support for the opinion that private enterprise is the right way to organize production. In Pelikan 1985 I push Nelson's argument a little further, showing that from the point of view of conventional theories, private enterprise has no particular virtues which a suitably designed system of socialist planning or government control could not imitate or even improve upon.

In order to show why this is so, I call attention to the fact that conventional theories – including the entire neoclassical analysis and most of its modern extensions – limit their attention to the question of how resources are allocated *among already given units, through already given markets*. In other words, these theories regard the organization of the economy as given and immutable. Only price and quantity adjustments are studied, while the essential question of how an economy organizes and reorganizes in the face of an incessantly changing world is simply ignored. Schumpeter was probably first to note this limitation of conventional theories when he said that “the problem that is usually being visualized is how capitalism administers existing structures, whereas the relevant problem is how it creates and destroys them” (1942; ed. 1976, p. 84).

According to my argument, economic systems differ less in their abilities to administer given structures, ideal by assumption, than in their abilities to organize, and keep in good shape, real structures. It is in the latter abilities that one can find the most important advantages of private enterprise and the greatest difficulties of all centrally planned or government controlled systems. All theories which neglect to examine these abilities are, therefore, bound to lead to an incomplete and distorted view of the merits of different systems.

### **3. Dynamic Studies of the Organization of Capitalist Economies**

There is a growing number of studies which overcome this limitation by studying how a private enterprise economy organizes and reorganizes itself – that is, how it creates and destroys its structure. This branch includes the theory of economic development by Schumpeter 1934, 1942, the study of the evolution of firms' behavior in markets by Alchian 1950 and Winter 1971 and the evolutionary theory of economic change by Nelson and Winter 1982. Marris and Mueller 1980 survey this branch with an interesting contribution of their own. Much of the research conducted at IUI also belongs to this

branch. Eliasson deals with the organizational dynamics of capitalism on several occasions, 1984, 1985, 1986. This dynamics has also been the main subject of the symposium edited by Day and Eliasson 1986.

Although these studies overcome the main limitation of conventional theories, their help to the proposed search is limited for another reason. Their attention is exclusively focused on capitalism, which they try to describe and understand, rather than critically assess in comparison with some feasible alternatives. Consequently, they are as inconclusive about the respective merits of alternative institutions (systems) as conventional theories.

As an illustration, one can examine the few studies which do criticize capitalism for its ways of changing the organization of the economy (cf., e.g., Marris and Mueller). These studies are unconvincing precisely because they are not comparative. Consequently, they fall victim to what Demsetz 1969 calls the “nirvana fallacy”, by assessing one real system from the point of view of an ideal norm – the “nirvana” – rather than by comparing it to feasible alternatives. In this way, one can be misled into rejecting an imperfect system, without ever noticing that all *feasible* alternatives might be even less perfect.

#### 4. An Alternative Research Program

The great merit of Marris and Mueller is to introduce into economic analysis the concepts of *self-organization* and *adaptive efficiency*, which are particularly suitable for the present discussion. The former refers to the process through which an economy “... can and does modify its own structure and programming in the course of and as a result of its own operations” (p. 33). “Adaptive efficiency” denotes the abilities of an economy to self-organize – that is, to suitably modify its structure. It also closely corresponds to what Eliasson 1985b, p. 330, calls “Schumpeterian efficiency”.

Using these concepts, one can say that conventional theories ignore the key problems of self-organization and adaptive efficiency altogether, whereas the studies which do deal with them are not comparative. Consequently, an alternative research program which appears particularly promising is to examine how alternative economic institutions (systems) solve the problem of self-organization, and how they compare in terms of adaptive efficiency.<sup>1</sup>

It is this program, which may be termed “comparative studies of economic self-organization”, that I propose to follow. Having already taken a few steps in this direction (cf. Pelikan 1985a, 1985b, 1986, and forthcoming), I shall now outline my approach and indicate some of my findings.

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<sup>1</sup> A similar research program is recommended by Kornai (1971).

## **5. Adaptive Efficiency and Policy Issues**

In order to be adaptively efficient, the economy must, in essence, allow new production organizations to form, induce existing organizations to keep adapting to economic and technological changes, and force the organizations which cannot adapt to dissolve.

Of course, adaptive efficiency can hardly be counted among final social goals, immediately contributing to social welfare. On the contrary, efficient self-organization often causes short run social losses. These include the costs imposed on the firms which are forced to close down, and on the people who must seek new jobs, possibly in other professions and/or regions. In other words, these are the negative social effects of creative destruction, as Schumpeter saw them. It should be emphasized, therefore, that adaptive efficiency is nevertheless an instrument of social welfare, or a social subgoal; important in the medium run and decisive in the long run.

The instrumental nature of adaptive efficiency defuses much of the usual controversies about desirable objectives (values) of economic policy. It provides an additional justification to Nelson's 1981 proposal to focus policy analysis on the performance of production, while largely abstracting from the final demands which production should meet. The reason is that for a wide spectrum of policies concerning final demand – ranging from full consumer sovereignty to the extensive paternalism of a welfare state – adaptive efficiency of production is equally crucial.

Since adaptive efficiency is so important, but ignored in conventional analysis, there is a great risk that many policies approved by such analysis have hidden perverse effects. One purpose of the proposed search is to find such effects and suggest corresponding corrections of policy.

## **6. Institutional Rules and Organizational Structures**

The first problem to be solved is the one of conceptual clarity and parsimony. In particular, good care must be taken of the concepts "institution", "organization" and "structure". The well-known difficulty with these concepts is that they have been interpreted in many different, not always clearly defined ways.

It seems that a clear and parsimonious conceptual framework, adequate for the problem at hand, can be built around two key concepts: "institutional rules" and "organizational structures".

Institutional rules constrain the behavior of economic actors – individuals as well as organizations – in a similar way as the rules of a game constrain the behavior of its players. Examples of institutional rules are property rights, the rights and obligations to inform and to be informed, and various norms constraining the conduct of economic policy.

Institutional rules consist of both written law and unwritten custom. Their common feature is that they are respected by all, or nearly all, economic actors. Consequently, they also help the actors predict each others' behavior.<sup>1</sup>

Each economy can be characterized by its list of prevailing institutional rules. It is according to this list that one can determine whether the economy is capitalist or socialist. Moreover, one can also read there the precise form of capitalism or socialism in question, including the precise forms ("norms") of admissible economic policy and/or planning. (One may think of recognizing the type of a game from reading the list of its rules.)

Formally, the concept of organizational structure refers to a collection of units, behaving in certain ways (e.g., maximizing or satisficing), and inter-related through a certain organizational design (e.g., a certain mixture of markets and hierarchies). The traditional microeconomic view of an economy as a collection of perfectly organized profit maximizing units, inter-related through a set of perfectly competitive markets, is a particular and simplified case of organizational structure. More realistically, the organizational structure of an economy is an organization of organizations, which can often be described as a mixture of markets and hierarchies.

If institutional rules are compared to the rules of a game, then an organizational structure can be compared to the configuration of the players actually playing the game. This comparison is helpful for a good intuitive understanding of the situation studied, for it clearly suggests the idea that a given game can be played by different and possibly changing configurations of players. It also indicates promising avenues for formal modeling.

An important advantage of the concepts "institutional rules" and "organizational structure" is that they can be applied to the internal organization of firms and agencies. A firm or an agency is then regarded as a subgame, with internal institutional rules and organizational structure of its own, related in certain precise ways to the rules and the structure of the economy.

## **7. Economic v. Institutional Self-Organization**

Using the introduced terms, one can say that mainstream economics studies the allocation of resources within a given organizational structure, under given institutional rules. What I propose is not to abandon studies of resource-allocation, but to complement them with studies of self-organization. As will become clear shortly, resource-allocation and self-organization are inti-

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<sup>1</sup> In the present discussion, I leave aside the question of how the respect for institutional rules is enforced. As will be explained below, the present focus is on the adaptive efficiency provided for by different sets of institutional rules, assumed given and respected.

mately interrelated and cannot be meaningfully studied without each other.

The entire self-organization of an economy can be visualized as taking place in two stages. During *institutional self-organization*, institutional rules are formed through cultural, political and legal processes (e.g., through “preconstitutional contracts” in the sense of Buchanan 1976, or through spontaneous formation of custom, as studied by Schotter 1980). During economic self-organization, organizational structure is formed under existing institutional rules.<sup>1</sup>

The focus here is on economic self-organization under different given institutional rules. To recall, it is the adaptive efficiency of different institutional rules – that is, their abilities to promote the formation of suitable organizational structures – which is to be examined.<sup>2</sup>

## 8. Modeling Economic Self-Organization

A model of economic self-organization must depart from the usual micro-economic view of an economy in several respects. The first point is to recognize, as already Schumpeter urged us to do, that the organizational structure of the economy is not exogenously given, but endogenously variable.<sup>3</sup> In other words, instead of postulating the presence of some given markets and/or hierarchies, the model must depict the fact – and this is what economic self-organization is about – that markets and hierarchies can form, reform, grow, transform into each other, diminish or dissolve.

Since no economic organizations are given, the model must start from a collection of individuals – the society – and show how these individuals combine and recombine into different organizations. Even if the collection of individuals does not change, the collection of economic units conducting resource-allocation is variable.

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<sup>1</sup> Logically, this division corresponds to the one made in biology between the evolution of species (cf. institutional rules) and the development of an individual (cf. organizational structure) of a given species. The great difference is, of course, that in biology the two stages of self-organization are neatly separated by substantially different time scales, whereas they are often closely interwoven in the history of societies. Typically, while an organizational structure is still in full development, the prevailing institutional rules are also being modified – e.g., by new laws or changes of custom – thus causing the organizational structure to continue its development under a more or less different set of institutional rules.

<sup>2</sup> As can easily be verified, it is indeed with what I call “economic self-organization” that Marris and Mueller, as well as Schumpeter, are concerned. In this respect, the only difference between their approach and mine is that they examine economic self-organization in capitalism, whereas I propose to examine it under different institutional rules – such as different forms of capitalism, socialism, and interventionism.

<sup>3</sup> On this point, see also Eliasson’s introductory chapter in this volume.

This difference entails several other differences. The most fundamental one is that our view of microeconomic behavior must be widened. Economic agents must be regarded not only as exchanging (transacting) signals and resources along some already established channels – e.g., through existing markets or within existing hierarchies – but also as forming, modifying, or dissolving such channels, through *active and selective associating and dissociating*.

To explicitly recognize associative behavior as relatively autonomous from allocative behavior is essential for modeling economic self-organization. The failure to do so seems to be the main reason why theory has made so little progress in this direction.<sup>1</sup> Associative behavior involves its specific constraints and preferences – e.g., the constraints of limited span of control and limited trust, and the preferences for social contacts, friends, rituals, status and power. Such associative constraints and preferences influence individual behavior side by side with the traditionally considered allocative constraints and preferences. They can often surprise traditional analysis by leading self-organization towards structures which apparently violate all principles of allocative efficiency.

This view of economic behavior can no longer refer to the paradigm of mechanics, on which mainstream economics has been built, but invites us to turn to the paradigm of chemistry and biochemistry. Economic agents are no longer organizationally passive parts of a given “mechanism”, but actively and selectively “react” with each other; they themselves form and reform the structures of which they are parts.

An important implication is that the form of an organizational structure is disclosed as impossible to perfectly plan by any central organizer, for it will inevitably be enriched, or disturbed, by spontaneous self-organization of all the agents concerned.

Economic self-organization will often require that some agents assume special roles, resembling the roles of catalysts in chemistry. In particular, most markets and hierarchies require initiative-taking *entrepreneurs* in order to begin to form. In a precise sense, entrepreneurship can thus be interpreted as *catalysis of self-organization*.

Another point on which the model must differ from standard microeconomics is that it cannot neglect the internal organization of firms and agencies. Both interfirm and intrafirm levels of organization must be depicted, for self-organization often involves both these levels simultaneously. For instance, vertical integration typically transforms a part of an interfirm market

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<sup>1</sup> Economic literature comes close to dealing with such behavior in the writings on coalition formation, long-term employment contracts, and the issue of exit, voice, and loyalty, as formulated by Hirschman 1970.

into an intrafirm hierarchy. Similarly, the entry of a new multipersonal firm implies the formation of both a new intrafirm hierarchy and a new set of interfirm relations. It is here that the flexibility of the proposed conceptual framework proves particularly useful.

Finally, the model must be dynamic in a rather unusual sense. Besides showing how a given organizational structure allocates resources – the usual task of economic analysis – it must also take into consideration the fact that while resource-allocation is still going on, the organizational structure may change through self-organization. The above-mentioned intimate relationship between resource-allocation and self-organization can now be explained. Self-organization forms the organizational structure which determines how resources will be allocated. The resulting allocation of resources then becomes an important constraint on further self-organization.

The development of such a model, which must extensively rely on simulation techniques, is still far from finished.<sup>1</sup> But it is not necessary to wait until this is done. Some approximative but significant results can be reached by qualitative reasoning. It is to such reasoning that I limit the present discussion.

## **9. Economic Self-Organization under Different Institutional Rules**

To understand the impact of different institutional rules on self-organization, we must begin with a microeconomic inquiry on their impact on the behavior of individual agents. In general, each set of institutional rules constrains, in its characteristic ways, the behavior of economic agents during both resource-allocation and self-organization. One can often distinctly see the two corresponding subsets of rules – for instance, the rules to be respected when signaling and trading, as distinguished from the rules to be respected when associating or dissociating. Typical examples of the latter rules are the antitrust law, the corporation law, the laws regulating entry and exit, and the laws and custom regulating the labor and stock markets – the places where most of the associating and dissociating of employees, managers and owners is done in capitalism.

But as has just been explained, self-organization and resource-allocation are closely interrelated. Therefore, both types of institutional rules will influence self-organization. The resource-allocation rules will do so indirectly, via their responsibility for the actual allocation of resources, determining which changes of organizational structure become economically feasible. The self-

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<sup>1</sup> Important sources of inspiration for building such a simulation model are Nelson and Winter 1982 and Eliasson 1985b.



organization rules will then determine which of the economically feasible changes are also institutionally permissible.

The institutional rules of an economy are thus exposed as doubly responsible for the development of the economy's structure and performance – much as the genetic message of an organism is responsible for the development of the organism's form and abilities. Consequently, the habit of mainstream economics to assign an arbitrarily postulated organizational structure to given institutional rules – such as a set of perfectly competitive markets to capitalism, or a hierarchy of optimal planning to socialism – is disclosed as illegitimate. Although new institutional rules typically begin with the organizational structure inherited from their predecessors, their responsibility for the organizational structure will soon become decisive. Once institutional rules are given, they constrain, often in hidden and surprising ways, the set of compatible structures, making all *a priori* assumptions about structures subject to serious errors.

What this view implies for the present argument can best be shown by referring to the so called “convergence hypothesis” (cf., e.g., Tinbergen 1961). This hypothesis claims that, through increasing use of large hierarchies in capitalism and markets in socialism, the two types of economies are converging to similar organizational structures. To be sure, some socialist economic reforms – such as in Hungary, and recently also in China – do result in mixtures of markets and hierarchies which resemble those encountered in capitalist economies. But the resemblance can now be disclosed as only superficial, limited to the area of resource-allocation within given structures. In the area of self-organization, through which structures are formed and reformed, no true convergence is possible, unless socialism is transformed into full-fledged capitalism. *Only private ownership of capital allows for truly decentralized entrepreneurship with open entry to both product and capital markets.* As will be discussed later, it is precisely these features, inimitable by socialism, which appear to be necessary conditions for adaptive efficiency.

## 10. Tacit Knowledge

The above implication involves a puzzling point. It is admitted that different institutional rules, channeling self-organization in different ways, can nevertheless generate similar organizational structures. Yet it is claimed that, in spite of their similarities, the generated structures will perform differently, because of differences in their self-organization. But this can be true only if different ways of self-organization endow the structures with different abilities, important for the production performance, but difficult to observe from the structures' appearance. In other words, socialist markets and socialist

hierarchies may resemble capitalist markets and capitalist hierarchies, and yet not perform in the same way. The question, then, is which hidden factor of production, depending exclusively on self-organization, can make such a difference.

According to my argument, this factor is a particular type of information, ignored by standard analysis, but crucial in studies of self-organization. This is the information inherent to organizational structures themselves – similar to the “hardware” information inherent to the internal arrangement of a machine or an organism. It is this information which determines what the structure can do, which *other* information it can use. But unlike a machine which obtains its hardware once for all from an external constructor, the organizational structure of an economy can obtain this information only gradually, through its own self-organization.

To denote this information, a convenient term is “tacit knowledge”, due to Polanyi 1967 and recently employed in economic analysis by Nelson and Winter 1982. In my interpretation, however, tacit knowledge is a property not only of individuals, but of organizational structures in general.<sup>1</sup>

Individual tacit knowledge can be visualized as the *competence*, which an individual must acquire through his own learning by doing, and the *talents*, which limit the competence he can eventually learn.<sup>2</sup> The main distinguishing feature of such knowledge is that it *can be freely used by its owner*, but *cannot be communicated* (directly transmitted) to someone else.

Besides not being directly communicable, individual tacit knowledge has a few other properties which are of relevance for economic self-organization. In particular, it is *not directly measurable, nor interpersonally comparable*. Only the particular results of its application in particular circumstances – such as the solutions of particular problems, or the performance in particular tests or tournaments – can be observed and compared. The frequent cases of overestimation or underestimation of one’s own competence and talents show that one is even unable to directly measure one’s own tacit knowledge, in spite of using it freely.

While some tacit knowledge is needed for all human activities, the present focus is on the tacit knowledge needed for economic behavior – that is, on what may be called “economic” or “business” competence and talents. By making the standard assumption of perfect (unbounded) rationality of all economic agents, mainstream economics implicitly assumes that such knowledge is always perfect. In contrast, the present point is to recognize such

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<sup>1</sup> Without using this term, Eliasson 1976 convincingly shows, with the help of extensive empirical material, the crucial role of tacit knowledge within firms.

<sup>2</sup> The unity of the concepts used appears with particular clarity if learning by doing is interpreted as psychological, or even neuronal self-organization within individuals.

knowledge as scarce and unequally distributed. In other words, different people are to be recognized as endowed with different economic competence and talents. This point is equivalent to making the increasingly popular assumption of bounded rationality (cf., e.g., Simon 1955 and Williamson 1975) with the important addition that the rationality of different people is recognized as bounded in possibly different ways and degrees.

As to the tacit knowledge of an organizational structure – let me denote it “organizational” – it is made of all the individual tacit knowledge involved. But it is not a simple sum of individual contributions. The main idea is to give more weight to the individual knowledge employed in top positions – such as those of managers, investors, and entrepreneurs – than to the knowledge used by the rank and file. Consequently, when considering a given society, consisting of given individuals with given tacit knowledge, it is on their respective positions and interrelations that the organizational tacit knowledge of the economy’s structure will depend.

This means that organizational tacit knowledge will depend on the *organizational arrangement*, which determines the network of individual positions and interrelations, and on the *selection of specific individuals* for these positions.

Two implications are of importance. First, the same individuals can form structures of different organizational tacit knowledge, if employed in different organizational arrangement. Second, the same arrangement can result in different organizational tacit knowledge, if it employs different, or differently selected, individuals.

The second implication is the key to the puzzle of organizational structures which look similar but perform differently: while their easy to observe organizational arrangements may be similar, their difficult to observe use of individual tacit knowledge may nevertheless differ.

## **11. Self-Organization as Allocation of Tacit Knowledge**

The first idea which naturally comes to an economist’s mind is to regard tacit knowledge as a particular factor of production, and to study its allocation in a formally similar way as the allocation of all other resources. Although this proves not to be a fruitful idea, it is instructive to attempt to follow it. Such an unsuccessful attempt can help exposing the fundamental differences between tacit knowledge and the traditional resources and, consequently, the differences between self-organization and the traditional resource-allocation.

Whereas all other resources, including communicable information, can change hands and flow across a given organizational structure, tacit knowledge is tied to individuals and structures, and can be allocated only through changes of the structure itself. Economic self-organization can be regarded

as a particular case of resource-allocation, quite different from the traditionally studied cases. While traditional resource-allocation leaves the organizational structure which conducts it intact, *the allocation of tacit knowledge ends up with another organizational structure than the one it started with.*

A “strange loop”, typical for self-organization, is thus discovered.<sup>1</sup> The resource-allocating mechanism and the allocated resources, which traditional analysis keeps tightly separated, appear now to overlap. To visualize the situation, recall the usual view of scarce resources as allocated with the help of the rationality of the economic actors involved. Regard the actors with their rationality as the constituent parts of the resource-allocating mechanism (organizational structure). The problem is that traditional analysis assumes that economic rationality of all decision-makers is perfect – that is, that the underlying tacit knowledge is not scarce. Consequently, rationality itself is exempted from the need to be allocated. In contrast, the present view implies that economic rationality is based on scarce tacit knowledge, and must be, therefore, considered itself scarce. This poses the peculiar problem of how scarce rationality is allocated. What makes this problem most peculiar is the fact – and this is where the strange loop appears – that there is nothing else with which to allocate scarce rationality than scarce rationality.

The peculiar nature of this allocation process appears even clearer when we recall that besides being incommunicable, tacit knowledge (including economic rationality) is not directly measurable and interpersonally comparable. The upshot is that not only tacit knowledge is imperfect, but the knowledge about its actual allocation is imperfect as well. Only more or less qualified guesses about its allocation can be made, their quality depending on the tacit knowledge of their authors.

The difficulty of the problem of economic self-organization can now be fully appreciated. It is the difficulty of *allocating imperfect and imperfectly known tacit knowledge by the means of imperfect and imperfectly known tacit knowledge.*

## **12. From Theory to Policy Implications**

The answer to the puzzle of similarly looking but differently performing organizational structures can now be completed. The crucial difference in organizational tacit knowledge must indeed be ascribed to differences in self-organization. Consequently, successful organizational structures can be shown to owe their success less to their static appearance than to the entire

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<sup>1</sup> An inspiring reading for understanding the mathematico-logical problems of strange loops is Hofstadter 1979.

process of their genesis. This means that they are not directly imitable, unless their entire self-organization would be imitated as well.

An immediate implication is that, contrary to what standard analysis implies, the organization of successful capitalist firms cannot be imitated by socialist firms, nor by government agencies.

More general implications can be drawn by studying the conditions which different institutions with different forms of economic policy offer to economic self-organization. Decentralized entrepreneurship with open entry to both product and capital markets, and well-defined rules of bankruptcy, prove to be the essential conditions for adaptive efficiency. The main idea to follow is to examine different forms of institutional rules and economic policies for their constructive or destructive influences on these conditions.

As to private enterprise, the proposed analysis sees its most important merit precisely in its potential to provide the relatively best conditions for economic self-organization. And let it be emphasized that it is not claimed that markets always allocate resources more efficiently than hierarchical organization, as conventional arguments sometimes do. In good agreement with empirical facts, the proposed analysis can very well admit that hierarchies can, and sometimes do, perform better than markets. What is claimed is that such efficient hierarchies can be expected to form and to remain efficient only under the institutional rules of private enterprise.

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